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SYL-OFF® 7210 RELEASE MODIFIER



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Description

Syl-Off® 7210 Release Modifier is a 60% active solids, pre-catalysed, release modifier. General purpose release modifier recommended for use with Syl-Off® Solvent based, platinum catalysed release coatings.

How To Order

[Request a Sample](#) [Find a Distributor](#)

More information is available in the
Sheets at the bottom of the page.

Typical Properties

[Active Content](#)[Color](#)[Color](#)[Dynamic Viscosity](#)[Flash Point Closed Cup](#)

*These values are typical properties
use in preparing specifications.

Data Sheet Downloads

Data Sheet country format: 

MSDS(PDF Files)

[SYL-OFF® 7210 RELEASE MODIFIER, English \(48 KB\)](#)[SYL-OFF® 7210 RELEASE MODIFIER, English \(48 KB\)](#)

Product Data Sheets(PDF File)

[Pressure Sensitive, English \(16 KB\)](#)

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SYL-OFF® 7210 Release Modifier

FEATURES

- Used to increase the release force of cured silicone release film in a controlled manner

APPLICATIONS

- Release base for pressure sensitive laminates/labelstock.
- Single and double-sided industrial release papers.
- Film coating.
- Non-stick foodgrade packaging (in some conditions only, see "Food Contact").
- Coatings for liners of adhesive tapes.

TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

| Parameter | Unit | Value |
|-----------------------------------|-------------------|---------------------------|
| Form | | Liquid |
| Chemical nature | | Reactive siloxane complex |
| Appearance | | Clear pale yellow |
| Diluent | | Xylene |
| Active ingredient | % | 62 |
| Specific gravity at 25°C (77°F) | g/cm ³ | 1.03 |
| Viscosity at 25°C (77°F) | mPa.s | 8 |
| Flash point - closed cup, minimum | °C (°F) | 24 (75.2) |

FORMULATION DATA AND INFORMATION

Recommendations about how to use and formulate this product with other SYL-OFF® materials are provided in the SYL-OFF formulation guide, reference 30-012A. More information about the use of SYL-OFF materials can be obtained from the Dow Corning technical service group. Information about the range of release coating systems available is given in the SYL-OFF selection guide, reference 30-002.

HANDLING PRECAUTIONS

SYL-OFF 7210 Release Modifier is flammable. Keep away from heat, sparks and open flames. Use only with adequate ventilation in work and curing areas. Avoid prolonged

breathing of vapors.

Direct contact with eyes and skin may cause slight irritation which can be relieved by flushing with water for 15 minutes. In the case of eye contact get medical attention.

Rubber and plastic gloves and safety glasses should be worn when handling this product.

Wash hands after handling this product, especially before eating, drinking or smoking.

If swallowed, do NOT induce vomiting but obtain medical attention. This product has a low order of toxicity but may cause poisoning if solvent is aspirated into the lungs.

PRODUCT SAFETY
INFORMATION REQUIRED FOR
SAFE USE IS NOT INCLUDED.
BEFORE HANDLING, READ
PRODUCT AND SAFETY DATA
SHEETS AND CONTAINER
LABELS FOR SAFE USE,
PHYSICAL AND HEALTH
HAZARD INFORMATION. THE
SAFETY DATA SHEET IS
AVAILABLE FROM YOUR LOCAL
DOW CORNING SALES
REPRESENTATIVE.

USABLE LIFE AND STORAGE

When stored at or below 30°C (86°F)
in the original unopened containers,
this product has a usable life of 12
months from the date of production.

This material must be stored in a
warehouse suitable for flammable
materials.

PACKAGING

This product is available in 200kg
containers.

Samples are available in 500g and
5kg packages

FOOD CONTACT

SYL-OFF 7210 Release Modifier may
be used for food contact applications.
For specific details, please contact
Dow Corning as regulations vary
from country to country.

LIMITATIONS

This product is neither tested nor
represented as suitable for medical or
pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product
safety needs, Dow Corning has an
extensive Product Stewardship
organization and a team of Health,
Environment and Regulatory Affairs
specialists available in each area.

For further information, please
consult your local Dow Corning
representative.

WARRANTY INFORMATION - PLEASE READ CAREFULLY

The information contained herein is
offered in good faith and is believed
to be accurate. However, because
conditions and methods of use of our
products are beyond our control, this
information should not be used in
substitution for customer's tests to
ensure that Dow Corning's products
are safe, effective, and fully
satisfactory for the intended end use.
Dow Corning's sole warranty is that
the product will meet the
Dow Corning sales specifications in
effect at the time of shipment. Your
exclusive remedy for breach of such
warranty is limited to refund of
purchase price or replacement of any
product shown to be other than as
warranted. Dow Corning specifically
disclaims any other express or implied
warranty of fitness for a particular
purpose or merchantability. Unless
Dow Corning provides you with a
specific, duly signed endorsement of
fitness for use, Dow Corning
disclaims liability for any incidental
or consequential damages.
Suggestions of use shall not be taken
as inducements to infringe any patent.

DOW CORNING CORPORATION
Material Safety Data Sheet

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Version: 1.3

Revision Date: 2005/04/22

SYL-OFF(R) 7210 RELEASE MODIFIER**1. PRODUCT AND COMPANY IDENTIFICATION**

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900**Customer Service: (989) 496-6000****Product Disposal Information: (989) 496-6315****CHEMTREC: (800) 424-9300**

MSDS No.: 01733931

Revision Date: 2005/04/22

Generic Description: Silicone resin solution.

Physical Form: Liquid

Color: Colorless to pale yellow

Odor: Aromatic odor

NFPA Profile: Health 2 Flammability 3 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-------------------------------|
| 1330-20-7 | 15.0 - 40.0 | Xylene |
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |
| 3555-47-3 | 1.0 - 5.0 | Tetra(trimethylsiloxy) silane |
| 2627-95-4 | <1.0 | Tetramethyldivinylidisiloxane |

The above components are hazardous as defined in 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATIONPotential Health EffectsAcute Effects

Eye: Vapor may cause eye irritation. Direct contact may cause severe irritation.

Skin: May cause mild irritation.

Inhalation: Vapor may irritate nose and throat. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.

Oral: Aspiration of liquid while vomiting may injure lungs seriously. May cause vomiting.

Prolonged/Repeated Exposure Effects

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SYL-OFF(R) 7210 RELEASE MODIFIER

Skin: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis. Overexposure may injure internally if absorbed.

Inhalation: Overexposure by inhalation may injure the following organ(s): Blood. Lungs. Liver. Kidneys. Nervous system. Bone marrow.

Oral: Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye: Immediately flush with water for 15 minutes. Get medical attention.

Skin: Remove from skin and immediately flush with water for 15 minutes. Get medical attention if irritation or ill effects develop or persist.

Inhalation: Remove to fresh air. Get medical attention if ill effects persist.

Oral: Get immediate medical attention. Only induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

Comments: Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point: 74.8 °F / 23.8 °C (Pensky-Martens Closed Cup)

Autoignition Temperature: Not determined.

Flammability Limits in Air: Not determined.

Extinguishing Media: On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO₂), dry chemical or water spray. Water can be used to cool fire exposed containers.

Fire Fighting Measures: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

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SYL-OFF(R) 7210 RELEASE MODIFIER

Unusual Fire Hazards: Vapors are heavier than air and may travel to a source of ignition and flash back. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Remove possible ignition sources. Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. Do not take internally. Avoid skin contact. Avoid eye exposure. Avoid breathing vapor, mist, dust, or fumes. Keep container closed.

Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks, and flame.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Component Exposure Limits**

| <u>CAS Number</u> | <u>Component Name</u> | <u>Exposure Limits</u> |
|-------------------|-----------------------|--|
| 1330-20-7 | Xylene | Observe xylene limits. OSHA PEL (final rule) and ACGIH TLV: TWA 100 ppm, STEL 150 ppm. |

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SYL-OFF(R) 7210 RELEASE MODIFIER

100-41-4 Ethylbenzene

OSHA PEL (final rule): TWA 100 ppm, 435 mg/m³. ACGIH
TLV: TWA 100 ppm, STEL 125 ppm.**Engineering Controls**

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use chemical worker's goggles.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves: Silver Shield(R). 4H(R). Viton(R). Polyvinylalcohol. Teflon(R).

Inhalation: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.

Suitable Respirator: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes: Use full face respirator.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Inhalation/Suitable Respirator: Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Precautionary Measures: Do not take internally. Avoid skin contact. Avoid eye exposure. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Use reasonable care.

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SYL-OFF(R) 7210 RELEASE MODIFIER**Comments:**

Traces of benzene (carcinogen) may form if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements.

When heated to temperatures above 150 degrees C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer, and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid
Color: Colorless to pale yellow
Odor: Aromatic odor
Specific Gravity @ 25°C: 1.03
Viscosity: 7.5 cSt

Freezing/Melting Point: Not determined.
Boiling Point: > 100 °C
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.
Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

11. TOXICOLOGICAL INFORMATION**Special Hazard Information on Components****Carcinogens**

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SYL-OFF(R) 7210 RELEASE MODIFIER

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
|-------------------|-------------|-----------------------|

| | | |
|----------|------------|--------------|
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |
|----------|------------|--------------|

IARC Group 2B - Possibly Carcinogenic to Humans.

Teratogens

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
|-------------------|-------------|-----------------------|

| | | |
|----------|------------|--------------|
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |
|----------|------------|--------------|

Evidence of teratogenicity (birth defects) in laboratory animals.

Mutagens

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
|-------------------|-------------|-----------------------|

| | | |
|----------|------------|--------------|
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |
|----------|------------|--------------|

Genetically active in IN VIVO assay(s).

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

| Hazard Parameters (LC50 or EC50) | High | Medium | Low |
|----------------------------------|-------|------------------|-------|
| Acute Aquatic Toxicity (mg/L) | <=1 | >1 and <=100 | >100 |
| Acute Terrestrial Toxicity | <=100 | >100 and <= 2000 | >2000 |

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Yes

Characteristic Waste:

Ignitable: D001

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SYL-OFF(R) 7210 RELEASE MODIFIER

TCLP: D018

State or local laws may impose additional regulatory requirements regarding disposal.

Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION**DOT Road Shipment Information (49 CFR 172.101)**

Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
UN/NA Number: UN1866
Packing Group: III
Hazard Label(s): FLAMMABLE LIQUID LABEL

Ocean Shipment (IMDG)

Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
UN Number: 1866
Packing Group: III
Hazard Label(s): FLAMMABLE LIQUID
Marine Pollutant: Not Applicable

Air Shipment (IATA)

Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
UN Number: 1866
Packing Group: III
Hazard Label(s): FLAMMABLE LIQUID

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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SYL-OFF(R) 7210 RELEASE MODIFIER

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings**Section 302 Extremely Hazardous Substances (40 CFR 355):**

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
| 1330-20-7 | 28.0 | Xylene |
| 100-41-4 | 8.0 | Ethylbenzene |

Section 311/312 Hazard Class (40 CFR 370):

Acute: Yes
Chronic: Yes
Fire: Yes
Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
| 1330-20-7 | 28.0 | Xylene |
| 100-41-4 | 8.0 | Ethylbenzene |

Supplemental State Compliance Information**California**

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |

Carcinogenic.

Massachusetts

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
|-------------------|-------------|-----------------------|

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Material Safety Data Sheet

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Revision Date: 2005/04/22

SYL-OFF(R) 7210 RELEASE MODIFIER

| | | |
|-----------|-------------|--------------|
| 1330-20-7 | 15.0 - 40.0 | Xylene |
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |

New Jersey

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-------------------------------|
| 68988-56-7 | > 60.0 | Trimethylated silica |
| 1330-20-7 | 15.0 - 40.0 | Xylene |
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |
| 3555-47-3 | 1.0 - 5.0 | Tetra(trimethylsiloxy) silane |

Pennsylvania

| <u>CAS Number</u> | <u>Wt %</u> | <u>Component Name</u> |
|-------------------|-------------|-----------------------|
| 68988-56-7 | > 60.0 | Trimethylated silica |
| 1330-20-7 | 15.0 - 40.0 | Xylene |
| 100-41-4 | 7.0 - 13.0 | Ethylbenzene |

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

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SYL-OFF® 7367 CROSSLINKER



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[> Pressure Sensitive](#)
[> Pulp and Paper](#)
[> Release Coatings Home Page](#)
[> Solvent Based Platinum Formulation Guide](#)For use in: 

Description

Syl-Off® 7367 Crosslinker is a 100% active solids SiH functional silicone polymer. Recommended for use as crosslinker with Syl-Off® 7362 Coating.

How To Order

[> Request a Sample](#) [> Find a Distributor](#)

More information is available in the
Sheets at the bottom of the page.

Typical Properties

Shelf Life

=

*These values are typical properties
use in preparing specifications.

Data Sheet Downloads

Data Sheet country format: 

MSDS(PDF Files)

[SYL-OFF® 7367 CROSSLINKER, English \(57 KB\)](#)

Product Data Sheets(PDF Files)

[Pressure Sensitive, Chinese \(31 KB\)](#)
[Pressure Sensitive, English \(51 KB\)](#)

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SYL-OFF® 7362 Coating and SYL-OFF® 7367 Crosslinker

FEATURES

- Fast addition curing system
- Non-blocking, non-migratory release liner
- Differential release, double-sided coating possible
- Abrasion resistance with minimal rub-off

APPLICATIONS

This product is designed for the production of a wide variety of release substrates coated from solvent. The main applications include:

- Release liners for pressure-sensitive adhesive laminates.
- Industrial release papers and films
- Two-sided differential release papers and films.

DESCRIPTION

SYL-OFF 7362 Coating and SYL-OFF 7367 Crosslinker comprise an addition curing silicone coating system designed for use as a dilute solution in organic solvent. This system can be used to coat the release liners of pressure-sensitive adhesive laminates and tapes. Other applications include the production of industrial release papers, single- and double-sided coatings, casting papers and nonstick packaging.

COMPONENTS

The basic coating system is a base polymer plus crosslinker.

Components include:

- SYL-OFF 7362 Coating: 30% solution of base polymer in toluene
- SYL-OFF 7367 Crosslinker: 100% crosslinker

Optional components include:

- SYL-OFF® 7210 Controlled Release Additive: Release modifier providing tighter release
- SYL-OFF® 297 Anchorage Additive: Adhesion promoter for improved abrasion resistance

FORMULATION GUIDE

With the wide selection of components available, it is not possible to list all the combinations and permutations.

However, some typical formulations are included as reference points along with some notes about the use of the individual components. Some suggested formulations are given in

Table 1. Recommended ratio of coating to crosslinker is 100 to 0.7, as supplied.

BATH PREPARATION

The following procedure is recommended for the preparation of the coating bath. Equipment should be clean and dry, preferably constructed from stainless steel or glass.

1. Disperse SYL-OFF 7362 Coating in the process solvent heptane, toluene or other aliphatic or aromatic solvents. The suggested bath solids are 2% -12% silicone on a weight basis.
2. Thoroughly disperse the release modifier, if required.
3. Add SYL-OFF 7367 Crosslinker and disperse thoroughly. The ratio of polymer to crosslinker is 100:0.7. If a high release additive is used, calculate it as a polymer in the formulation.
4. Add the anchorage additive, if required, and disperse thoroughly.

NOTE: When transferring flammable liquids from one container to another, there is a fire risk due to static electric charge build-up. This risk is minimized by connecting both containers to a common ground.

BATH LIFE

The life of the formulated bath viscosity varies considerably with bath concentration, the solvent, the specific formulation, and the temperature of the

surroundings. Under normal conditions the bath should still be usable within 5 hours. Bath life as measured by cure performance is also acceptable within 5 hours.

APPLICATION TECHNIQUES

The coating may be applied to substrates by any roll coating technique. When using off-set roller systems, care should be taken with the choice of the rubber-covered rolls. Materials used to vulcanize the rubber may cause cure inhibition of the silicone coating. The silicone coat weight should be sufficient to give complete coverage without 'pin holes'.

APPLICATION LEVELS

The coat weight can be varied by changing the coating technique or the concentration of the silicone in the bath. In practice, coating baths vary from 4-12% silicone solids, with which dry coat weights in the range of 0.4-0.8 lb per 3000 square feet can be achieved. It is important that trials are carried out with each substrate used.

SUBSTRATE SELECTION

The SYL-OFF 7362 Coating and SYL-OFF 7367 Crosslinker system is best suited for coating substrates with good solvent hold-out. Typical substrates include:

- Super calendered kraft
- Polyethylene coated kraft
- Clay-coated kraft
- Parchments
- Glassines
- Metal foils
- Plastic films

Paper substrates need careful consideration. The precoat found on most glassines or super calendered krafts can affect the cure. It is important, therefore, that users check the compatibility of the coating and the substrate.

CURING

The correct schedule for curing SYL-OFF 7362 Coating and SYL-OFF 7367 Crosslinker is influenced by the base substrate being coated and in particular any precoat. Many of the catalysts, such as tin salts and amine additives, which were used in the earlier paper coatings, cause inhibition of the cure, and such materials should be avoided. Equipment used for processing should be thoroughly cleaned before start-up. In extreme cases cure may be inhibited. In addition, the cure rate is also influenced by the solvent chosen as the diluent, and the amount and type of additives.

Table 2 shows the cure performance of SYL-OFF 7362 Coating versus SYL-OFF * 7146 Paper Coating. Slightly longer dwell times are necessary when using SYL-OFF 7210 Controlled Release Additive.

RELEASE CHARACTERISTICS

Formulations 1 and 2 in Table 1 show standard release force values, which allow stripping speeds. To obtain differential release, a high release modifier is required, as shown in Formulations 3 and 4 of Table 1. Table 3 shows the release modifications possible with various levels of SYL-OFF 7210 Controlled Release Additive.

HANDLING PRECAUTIONS

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The material safety data sheet is available on the Dow Corning website at www.dowcorning.com. You can also obtain a copy from your local Dow Corning sales representative or Distributor or by calling your local Dow Corning Global Connection.

USABLE LIFE AND STORAGE

When stored at ambient temperature in the original unopened containers, this product has a usable life of 12 months from the date of production.

PACKAGING

This product is available in different standard container sizes. Detailed container size information should be obtained from your nearest Dow Corning sales office or Dow Corning distributor.

Samples are available in 1kg.

FOOD CONTACT

The combination of SYL-OFF 7362 Coating and SYL-OFF 7367 Crosslinker does not have food contact use status at this time. Please contact Dow Corning for suitable alternatives.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

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Table 1: Typical formations using SYL-OFF 7362 Coating

| <u>Component</u> | <u>Bath 1</u> | <u>Bath 2</u> | <u>Bath 3</u> | <u>Bath 4</u> |
|--|---------------|---------------|---------------|---------------|
| SYL-OFF 7362 Coating | 20.00 | 20.00 | 18.50 | 15.00 |
| Solvent | 79.86 | 79.86 | 79.86 | 79.86 |
| SYL-OFF 7367 Crosslinker | 0.14 | 0.14 | 0.13 | 0.3 |
| SYL-OFF 7210 Controlled Release Additive | - | - | 1.5 | 5.0 |
| SYL-OFF 297 Anchorage Additive | - | 0.20 | - | 0.20 |
| Typical applications ¹ | A | B | B | B, C |

¹ Applications codes

A - Label-making/adhesive laminates 'In-line'; standard release

B - Off-line coating of release papers

C - Increased released force: for differential release or weak adhesives

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Table 2: Cure performance of SYL-OFF 7362 Coating versus SYL-OFF 7146 Paper Coating¹

| | <u>Cure schedule, seconds at °C (°F)</u> | | | | | | | |
|----------------------------|--|-----------------|-----------------|------------------|------------------|------------------|------------------|-----------------|
| | <u>65 (149)</u> | <u>76 (169)</u> | <u>93 (199)</u> | <u>110 (230)</u> | <u>121 (250)</u> | <u>132 (270)</u> | <u>149 (300)</u> | <u>160(320)</u> |
| SYL-OFF 7362 Coating | 50 | 25 | 15 | 10 | 10 | 5 | 3 | <3 |
| SYL-OFF 7146 Paper Coating | - | 45 | 25 | - | 15 | - | 10 | 5 |

¹Test conditions:

Substrate: 40 lb kraft

Cure to N/N/N (nil smear / rub-off / migration)

Table 3: Release performance with SYL-OFF 7210 Controlled Release Additive¹

| <u>% SYL-OFF 7210 Controlled Release Additive added to coating</u> | <u>Polymer additive ratio</u> | <u>Release force, grams/inch</u> | |
|--|-------------------------------|----------------------------------|----------------------------|
| | <u>solids/solids</u> | <u>SBR²</u> | <u>Acrylic³</u> |
| 0.0 | 100/- | 80 | 175 |
| 10.3 | 4.4/1 | 325 | 300 |
| 15.0 | 2.8/1 | 400 | 400 |
| 20.0 | 2.0/1 | 550 | 450 |
| 25.0 | 1.5/1 | NA | 575 |

¹ Test conditions:

Substrate : 42 lb S2S kraft

Label stock : 60 lb matte litho

Stripping speed : 400rpm, 180 peel

Laminate age: 20 hours at RT

² SBR 36-6045, National Starch & Chemical Corp.³ GMS 263 heat crosslinking acrylic, Monsanto Co.

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SYL-OFF® 7362 COATING



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Description

Syl-Off® 7362 Coating is a 30% solids dispersion of vinyl functional silicone polymer in toluene. A pre-catalysed coating suitable for fast cure applications, recommended for use with 7367 Crosslinker.

How To Order

[Request a Sample](#) [Find a Distributor](#)

More information is available in the
Sheets at the bottom of the page.

Typical Properties

[Active Content](#)[Color](#)[Color](#)[Dynamic Viscosity](#)[Flash Point Closed Cup](#)

*These values are typical properties
use in preparing specifications.

Data Sheet Downloads

Data Sheet country format:

MSDS(PDF Files)

[SYL-OFF® 7362 COATING, English \(47 KB\)](#)

Product Data Sheets(PDF Files)

[Pressure Sensitive, English \(51 KB\)](#)

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SYL-OFF® 7362 Coating and SYL-OFF® 7367 Crosslinker

FEATURES

- Fast addition curing system
- Non-blocking, non-migratory release liner
- Differential release, double-sided coating possible
- Abrasion resistance with minimal rub-off

APPLICATIONS

This product is designed for the production of a wide variety of release substrates coated from solvent. The main applications include:

- Release liners for pressure-sensitive adhesive laminates.
- Industrial release papers and films
- Two-sided differential release papers and films.

DESCRIPTION

SYL-OFF 7362 Coating and SYL-OFF 7367 Crosslinker comprise an addition curing silicone coating system designed for use as a dilute solution in organic solvent. This system can be used to coat the release liners of pressure-sensitive adhesive laminates and tapes. Other applications include the production of industrial release papers, single- and double-sided coatings, casting papers and nonstick packaging.

COMPONENTS

The basic coating system is a base polymer plus crosslinker.

Components include:

- SYL-OFF 7362 Coating: 30% solution of base polymer in toluene
- SYL-OFF 7367 Crosslinker: 100% crosslinker

Optional components include:

- SYL-OFF® 7210 Controlled Release Additive: Release modifier providing tighter release

- SYL-OFF® 297 Anchorage Additive: Adhesion promoter for improved abrasion resistance

FORMULATION GUIDE

With the wide selection of components available, it is not possible to list all the combinations and permutations.

However, some typical formulations are included as reference points along with some notes about the use of the individual components. Some suggested formulations are given in

Table 1. Recommended ratio of coating to crosslinker is 100 to 0.7, as supplied.

BATH PREPARATION

The following procedure is recommended for the preparation of the coating bath. Equipment should be clean and dry, preferably constructed from stainless steel or glass.

1. Disperse SYL-OFF 7362 Coating in the process solvent heptane, toluene or other aliphatic or aromatic solvents. The suggested bath solids are 2% -12% silicone on a weight basis.
2. Thoroughly disperse the release modifier, if required.
3. Add SYL-OFF 7367 Crosslinker and disperse thoroughly. The ratio of polymer to crosslinker is 100:0.7. If a high release additive is used, calculate it as a polymer in the formulation.
4. Add the anchorage additive, if required, and disperse thoroughly.

NOTE: When transferring flammable liquids from one container to another, there is a fire risk due to static electric charge build-up. This risk is minimized by connecting both containers to a common ground.

BATH LIFE

The life of the formulated bath viscosity varies considerably with bath concentration, the solvent, the specific formulation, and the temperature of the

surroundings. Under normal conditions the bath should still be usable within 5 hours. Bath life as measured by cure performance is also acceptable within 5 hours.

APPLICATION TECHNIQUES

The coating may be applied to substrates by any roll coating technique. When using off-set roller systems, care should be taken with the choice of the rubber-covered rolls. Materials used to vulcanize the rubber may cause cure inhibition of the silicone coating. The silicone coat weight should be sufficient to give complete coverage without 'pin holes'.

APPLICATION LEVELS

The coat weight can be varied by changing the coating technique or the concentration of the silicone in the bath. In practice, coating baths vary from 4-12% silicone solids, with which dry coat weights in the range of 0.4-0.8 lb per 3000 square feet can be achieved. It is important that trials are carried out with each substrate used.

SUBSTRATE SELECTION

The SYL-OFF 7362 Coating and SYL-OFF 7367 Crosslinker system is best suited for coating substrates with good solvent hold-out. Typical substrates include:

- Super calendered kraft
- Polyethylene coated kraft
- Clay-coated kraft
- Parchments
- Glassines
- Metal foils
- Plastic films

Paper substrates need careful consideration. The precoat found on most glassines or super calendered krafts can affect the cure. It is important, therefore, that users check the compatibility of the coating and the substrate.

CURING

The correct schedule for curing SYL-OFF 7362 Coating and SYL-OFF 7367 Crosslinker is influenced by the base substrate being coated and in particular any precoat. Many of the catalysts, such as tin salts and amine additives, which were used in the earlier paper coatings, cause inhibition of the cure, and such materials should be avoided. Equipment used for processing should be thoroughly cleaned before start-up. In extreme cases cure may be inhibited. In addition, the cure rate is also influenced by the solvent chosen as the diluent, and the amount and type of additives.

Table 2 shows the cure performance of SYL-OFF 7362 Coating versus SYL-OFF * 7146 Paper Coating. Slightly longer dwell times are necessary when using SYL-OFF 7210 Controlled Release Additive.

RELEASE CHARACTERISTICS

Formulations 1 and 2 in Table 1 show standard release force values, which allow stripping speeds. To obtain differential release, a high release modifier is required, as shown in Formulations 3 and 4 of Table 1. Table 3 shows the release modifications possible with various levels of SYL-OFF 7210 Controlled Release Additive.

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| SYL-OFF 7210 Controlled Release Additive | - | - | 1.5 | 5.0 |
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| Typical applications ¹ | A | B | B | B, C |

¹ Applications codes

- A - Label-making/adhesive laminates 'In-line'; standard release
- B - Off-line coating of release papers
- C - Increased released force: for differential release or weak adhesives

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Table 2: Cure performance of SYL-OFF 7362 Coating versus SYL-OFF 7146 Paper Coating¹

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|----------------------------|--|-----------------|-----------------|------------------|------------------|------------------|------------------|-----------------|
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¹Test conditions:

- Substrate: 40 lb kraft
- Cure to N/N/N (nil smear / rub-off / migration)

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| | <u>solids/solids</u> | <u>SBR²</u> | <u>Acrylic³</u> |
| 0.0 | 100/- | 80 | 175 |
| 10.3 | 4.4/1 | 325 | 300 |
| 15.0 | 2.8/1 | 400 | 400 |
| 20.0 | 2.0/1 | 550 | 450 |
| 25.0 | 1.5/1 | NA | 575 |

¹ Test conditions:

- Substrate : 42 lb S2S kraft
- Label stock : 60 lb matte litho
- Stripping speed : 400rpm, 180 peel
- Laminate age: 20 hours at RT

² SBR 36-6045, National Starch & Chemical Corp.

³ GMS 263 heat crosslinking acrylic, Monsanto Co.